

## CLAIMS

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1. A method of processing a digital signal identified by a unique identifier in a distributed communication network composed of several communication apparatuses, comprising the steps of:

- storing at least a part of the data constituting the identified digital  
10 signal in a local storage located in one of the apparatus; and
- managing two descriptors related to the identifier within the local storage, including a first descriptor representative of the identified digital signal and a second descriptor which is dependent on the first descriptor and representative of the part of the data stored in the local storage.

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2. A method according to claim 1, further comprising a step of updating the second descriptor as a function of the data representative of the identified digital signal received and stored in the local storage.

- 3. A method according to claim 1, further comprising a step of sending from a server apparatus, a notification of availability of the identified signal  
20 to at least one client apparatus in the communication network, including the first descriptor of the identified signal.

4. A method according to claim 3, further comprising steps, performed by a server apparatus in the communication network, of:

- receiving from a client apparatus a request containing the signal  
25 identifier; and
- sending to the client apparatus the second descriptor related to the identifier and representative of the data relative to the identified signal stored in the local storage, if the identifier is known by the server apparatus.

- 5. A method according to claim 1, further comprising steps,  
30 performed by a server apparatus in the communication network, of:

- receiving from a client apparatus a request containing the signal identifier; and

- sending to the client apparatus the second descriptor related to the Identifier and representative of the data relative to the identified signal stored in the local storage, if the Identifier is known by the server apparatus.

5       6. A method according to claim 5, further comprising steps, performed by a server apparatus in the communication network, of:

- receiving from a client apparatus one request of data relative to the identified signal;

- retrieving in the local storage at least part of requested data; and

- sending to the client apparatus said at least part of requested data.

10       7. A method according to claim 2, further comprising steps, performed by a server apparatus in the communication network, of:

- receiving from a communication apparatus one request of data relative to the identified signal and one second descriptor representative of the data which is locally present on the client apparatus at the origin of the request;

15       - retrieving in the local storage at least part of requested data;

- sending to the client apparatus at the origin of the request said at least part of requested data; and

- updating the second descriptor as a function of said at least part of requested data which has been sent.

20       8. A method according to claim 7, further comprising a step, performed by a server apparatus in the communication network, of sending to another server apparatus the updated second descriptor and the request of data which has been modified to take into account said at least part of requested data which has been previously sent by said server apparatus.

25       9. A method according to claim 1, further comprising steps, performed by a client apparatus in the communication network prior to said storing step, of:

- receiving the first descriptor representative of the identified digital signal; and

30       - storing the first descriptor in the local storage.

10. A method according to claim 9, further comprising a step, performed by a client apparatus in the communication network, of receiving a notification of availability of the data relative to the unique identifier.

11. A method according to claim 9, further comprising a step, performed by a client apparatus in the communication network, of sending to at least one server apparatus at least one request containing the signal identifier.

12. A method according to claim 11, further comprising steps, performed by a client apparatus in the communication network for retrieving at least a part of the digital signal, of:

10       - receiving at least one second descriptor representative of the data locally present on at least one server; and

         - issuing at least one request of data, directed to said at least one server, as a function of the first descriptor and the at least one second descriptor.

13. A method according to claim 12, further comprising a step, performed by a client apparatus in the communication network, of receiving from at least one server at least part of the data constituting the identified signal and which has been specified in the previously sent request of data.

14. A method according to claim 9, further comprising a step, performed by a client apparatus in the communication network, of sending to at least one server at least one request of data as a function of the received first descriptor, and the second descriptor representative of the data locally present on the client apparatus.

15. A method according to claim 1, wherein the digital signal is in multiresolution format.

16. A method according to claim 15, wherein the first descriptor is representative of all available resolutions and their representation units (preincts) in a compressed format.

17. A method according to claim 16, wherein the second descriptor is representative of the units of the compressed format (preincts) as referenced in the first descriptor.

18. A method according to claim 15, wherein the second descriptor has a hierarchical structure.

19. A device for processing a digital signal, identified by a unique identifier in a distributed communication network composed of several communication apparatuses, comprising:

- means of storing at least a part of the data constituting the identified digital signal in a local storage located in one of the apparatus; and
- means of managing two descriptors related to the identifier within the local storage, including a first descriptor representative of the identified digital signal and a second descriptor which is dependent on the first descriptor and representative of the part of the data stored in the local storage.

20. A device according to claim 19, further comprising means of updating the second descriptor as a function of the data representative of the identified digital signal received and stored in the local storage.

21. A device according to claim 19, further comprising means of sending from a server apparatus, a notification of availability of the identified signal to at least one client apparatus in the communication network, including the first descriptor of the identified signal.

22. A device according to claim 21, further comprising, in a server apparatus in the communication network:

- means of receiving from a client apparatus a request containing the signal identifier; and
- means of sending to the client apparatus the second descriptor related to the identifier and representative of the data relative to the identified signal stored in the local storage, if the identifier is known by the server apparatus.

23. A device according to claim 19, further comprising, in a server apparatus in the communication network:

- means of receiving from a client apparatus a request containing the signal identifier; and
- means of sending to the client apparatus the second descriptor related to the identifier and representative of the data relative to the identified signal stored in the local storage, if the identifier is known by the server apparatus.

24. A device according to claim 23, further comprising, in a server apparatus in the communication network:

- means of receiving from a client apparatus one request of data relative to the identified signal;

- means of retrieving in the local storage at least part of requested data;

and

5                   - means of sending to the client apparatus said at least part of requested data.

25. A device according to claim 20, further comprising, in a server apparatus in the communication network:

10                   - means of receiving from a communication apparatus one request of data relative to the identified signal and one second descriptor representative of the data which is locally present on the client apparatus at the origin of the request;

- means of retrieving in the local storage at least part of requested data;

- means of sending to the client apparatus at the origin of the request said at least part of requested data; and

15                   - means of updating the second descriptor as a function of said at least part of requested data which has been sent.

26. A device according to claim 25, further comprising, in a server apparatus in the communication network, means of sending to another server apparatus the updated second descriptor and the request of data which has been  
20 modified to take into account said at least part of requested data which has been previously sent by said server apparatus.

27. A device according to claim 19, further comprising, in a client apparatus in the communication network:

25                   - means of receiving the first descriptor representative of the identified digital signal; and

- means of storing the first descriptor in the local storage.

28. A device according to claim 27, further comprising, in a client apparatus in the communication network, means of receiving a notification of availability of the data relative to the unique identifier.

30                   29. A device according to claim 27, further comprising, in a client apparatus in the communication network, means of sending to at least one server apparatus at least one request containing the signal identifier.

30. A device according to claim 29, further comprising, in a client apparatus in the communication network for retrieving at least a part of the digital signal:

- means of receiving at least one second descriptor representative of the data locally present on at least one server; and
- means of issuing at least one request of data, directed to said at least one server, as a function of the first descriptor and the at least one second descriptor.

31. A device according to claim 30, further comprising, in a client apparatus in the communication network, means of receiving from at least one server at least part of the data constituting the identified signal and which has been specified in the previously sent request of data.

32. A device according to claim 27, further comprising, in a client apparatus in the communication network, means of sending to at least one server at least one request of data as a function of the received first descriptor, and the second descriptor representative of the data locally present on the client apparatus.

33. A device according to claim 19, wherein the digital signal is in multiresolution format.

34. A device according to claim 33, wherein the first descriptor is representative of all available resolutions and their representation units (precincts) in a compressed format.

35. A device according to claim 34, wherein the second descriptor is representative of the units of the compressed format (precincts) as referenced in the first descriptor.

36. A device according to claim 33, wherein the second descriptor has a hierarchical structure.

37. A communication apparatus comprising a device according to claim 19.

38. An information storage means which can be read by a computer or a microprocessor containing code instructions of a computer program for executing the steps of the method according to claim 1.

39. A partially or totally removable information storage means which can be read by a computer or a microprocessor containing code instructions of a computer program for executing the steps of the method according to claim 1.

- 5           40. A computer program loadable onto a programmable apparatus, comprising sequences of instructions or portions of software code for implementing the steps of the method according to claim 1, when said computer program is loaded and executed by the programmable apparatus.